



Fig. 1. *Hydrolea zeylanica* var. *erecta*.
Herbarium specimen

elongate lateral branches or paniced by suppression of leaves, pubescent, never with glands, calyx pubescent, lobes lanceolate, acuminate, apex greenish, distinctly nerved.

Ovary 2-celled, ovules many, styles 2, distinct. Capsule ovoid-ellipsoid, septifragal, enclosed by the calyx lobes.

Fl. & Fr.: August-November.

Ecology: Occasional; in swamps, ditches and muddy places associated with *Ludwigia* spp., *Sphenoclea zeylanica*, *Monochoria hastata* and some aquatic grasses and sedges.

Material examined: Nilagiri, Balasore district (Orissa), 14.ix.1995, P.C. Panda 4297.

Distribution: Bihar and Orissa. Most likely to occur in other coastal states of India.

I also collected specimens of *Hydrolea zeylanica* var. *zeylanica* having pure white flowers from Ranpur mals, Nayagarh district, Orissa (Field No. Panda 5491) where a large population was observed in flowering condition. This white flower colour of *H. zeylanica* is a new record and is of taxonomic and ecological interest.

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P.C. PANDA
Taxonomy & Conservation Division
Regional Plant Resource Centre
Bhubaneswar-751 015,
Orissa.

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38. *HELIOTROPIUM BACCIFERUM* FORSSK. VAR. *TUBERCULOSUM* (BOISS.) KAZMI -- A NEW RECORD FOR RAJASTHAN

(With one text-figure)

While revising the family Boraginaceae from the Indian subcontinent the authors observed that specimens of *Heliotropium*

bacciferum Forssk. collected from Rajasthan are not actually *H. bacciferum*. On critical examination, they turned out to be

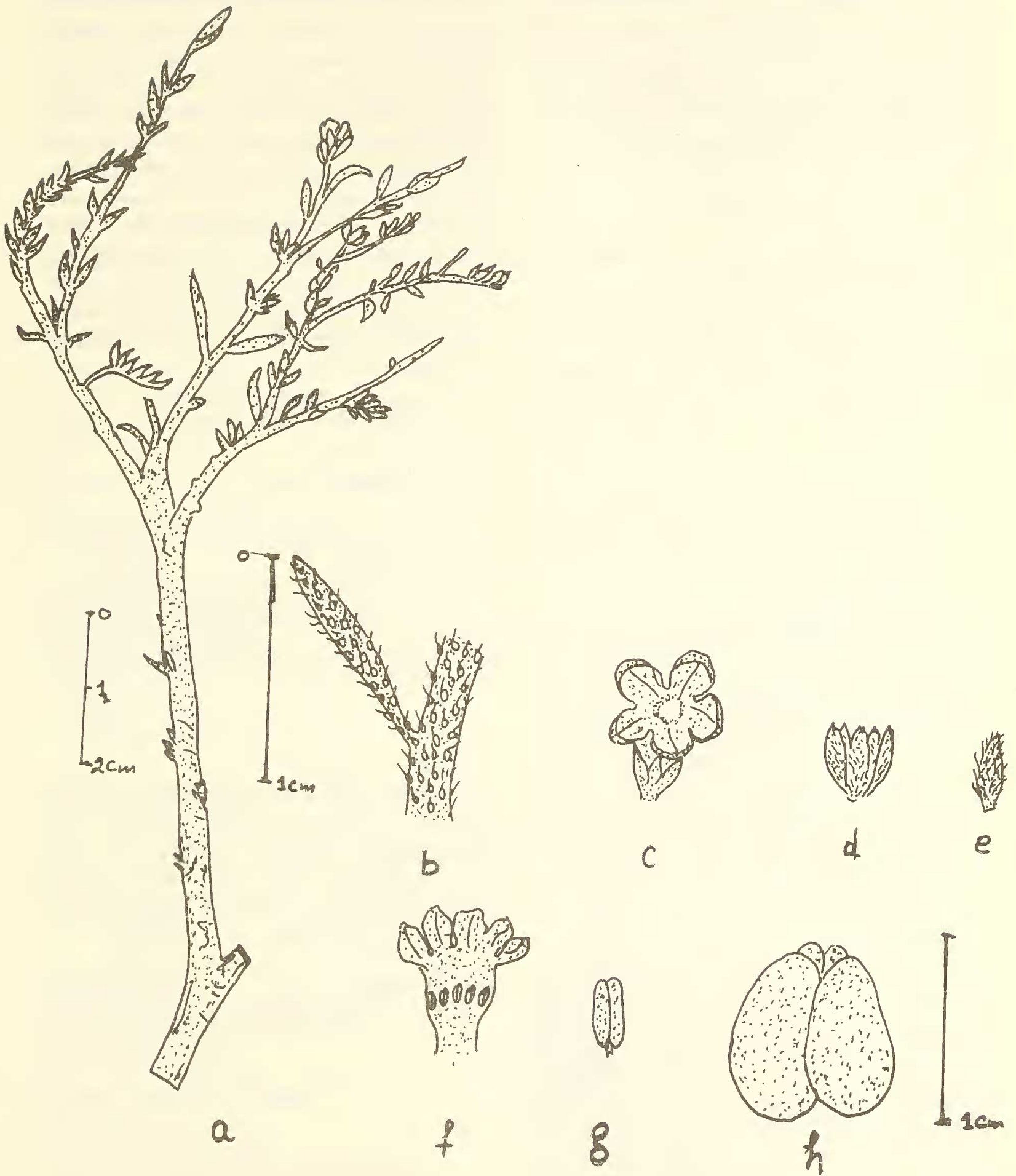


Fig. 1. *Heliotropium bacciferum* Forssk. var. *tuberculosum* (Boiss.) Kazmi a. Habit; b. Single leaf; c. Flower; d. Calyx; e. Sepal lobe; f. Corolla cut open; g. Stamen; h. Nutlets.

H. bacciferum Forssk. var. *tuberosum* (Boiss.) Kazmi. Since the identity of this plant is often confused and no illustrative account exists in the available literature, a short description with nomenclature, distribution and ecological notes along with a key to the varieties is given.

Key to the varieties

- 1a. Drupes more than 3 mm across with simple or bilobed corky cells on the back.
..... *H. bacciferum* var. *suberosum*
- 1b. Drupes less than 2 mm across, with verrucose or warty cells on the back..... 2
- 2a. Leaves flat, more than 5 mm broad, both surfaces of leaf covered with trichomes usually not arising from tuberculate bases.
..... *H. bacciferum* var. *bacciferum*
- 2b. Leaves terete, upto 3 mm broad, covered on both surfaces mostly with stout trichomes, distinctly arising from large, white, tuberculate bases..... *H. bacciferum* var. *tuberosum*.

Heliotropium bacciferum Forssk. var. *tuberosum* (Boiss.) Kazmi, Jour. Arn. Arb. 51: 162. 1970. *H. undulatum* Vahl var. *tuberosum* Boiss. Diagn. Pl. Orient 1(2): 89. 1849. *H. tuberosum* (Boiss.) Boiss. Fl. Orient. 4: 147. 1875. *H. kotschyi* Bunge., Reliq. Lehman 404. 181. *H. bacciferum* Forssk. subsp. *tuberosum* (Boiss.) H. Riedl in Oesterr. Bot. Zeitschr. 113: 167. 1966; Riedl in Rechinger, Fl. Iranica 48: 20. 1967.

Vernacular name: Punjabi: Jali misala; Gujarati: Pipal buti.

Perennial, branched, procumbent-decumbent or erect herbs or undershrubs with woody rootstock; younger parts covered with tuberculate based trichomes; older stems and branches give white dotted, glandular appearance. Leaves sessile to subsessile, alternate, terete, 0.5-1.5(3) x 0.1-0.3 cm, narrowed at both ends, margins undulate to revolute, covered on both surfaces with white tuberculate based trichomes intermixed with simple hairs. Inflorescence 1-2.5 cm long,

bearing a few closely set sessile, ebracteate, white flowers. Calyx divided up to the base, densely clothed with trichomes outside. Corolla tubular, pubescent outside, glabrous within. Corolla tubular, pubescent outside, glabrous within. Anthers inserted at or below the middle, yellow, sessile, oblong. Stigma conical, shortly bifid at the apex, obscurely pubescent with indistinct stigmatic ring. Drupe depressed globose, covered by persistent calyx lobes, ca. 2 mm across; nutlets 4, in two pairs, margins more or less winged, line of separation of the paired nutlets not conspicuous. Nutlets glabrous, warty or rugulose on the back.

Fl. and Fr.: March-September.

Distribution. India: Rajasthan, Gujarat, Punjab, Maharashtra.

Extralimital: West Pakistan, Iran, Iraq and Australia.

Ecology: In saline to sandy loamy soils or in rocky habitats.

Material examined: Harchandory, Jaisalmer 10.iii.1977, coll. B.V. Shetty 3491 (BSJO); Shivbani tank, Bikaner, 11.iii.1975, coll. G.P. Roy 1701 (BSJO).

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P.M. PADHYE

BSI, Andaman & Nicobar Circle,

Port Blair-744 102.

Present Address: BSI,

Arid Zone Circle, Jodhpur.

R.P. PANDEY

BSI, Arid Zone Circle,

775/80 Subhash Nagar, Khema Ka Kuan,

Pal Basani Canal Link Road,

Jodhpur-342 008.